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ORIGINAL ARTICLES.

A CASE OF MULTIPLE DOUBLE LIPODERMOIDS OF THE CONJUNCTIVÆ AND CORNEA, ACCOMPANIED BY INTRABULBAR AND OTHER ANOMALIES.*

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Miss W. J., age 33 years, was referred to me on June 17, 1908. She is the descendant of a family belonging to the first white settlers in this part of the country. Her parents were children of two sisters. She is the third and last child, having two brothers, the elder of whom is normal in every respect, while the younger bears some traits of degeneracy. He is of a peculiar character, irregular in his habits, potator periodicus, has a compound myopic astigmatism of 3.0 and 3.50, and floating opacities of the vitreous body of both eyes. His eyes do not show any changes due to irido-cyclitis and chorio-retinitis or malformations. His face is very asymmetric, the right parietal portion of the skull being more developed than the left. No history of syphilis or tuberculosis in the family. The father was tall and strong and died in his seventieth year; the mother was short and heavy. She died when about 68 years of age, of nephritis.

The patient herself is of rather graceful build, light of weight, but healthy, strong and of normal intellect. Her melancholy disposition is probably due to her being hampered by the condition of her eyes since childhood. When asked about the duration of her eye-trouble, she said that the white growths had existed in her eyes from infancy, but that they grew as she grew taller, and that they increased in size especially since her

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sixteenth year. During the last years the condition became intolerable on account of long hairs growing on the tumors, which she used to pull out as soon as they were long enough to protrude between the lids. She was able to get a fair common-school education and even visited a high-school for a year or two. The reason for not having had her eyes attended to when younger, was the warning of an old doctor of her town, who told the parents that the eyes would run out, if an attempt were made to remove the growths.

In front of the left ear we find the remnants of some polyotic growths which had been removed in her childhood, leaving a stellated and slightly retracted, whitish scar, in the centre of which two elevations arise, about 8 mm. in diameter. One of them is entirely a formation of the skin and is freely movable, while the other is hard and adherent to the cartilage of the antitragus. The portion removed was the size of a large cherry, according to the patient's statement.

The right side of her face is better developed than the left, the ridge of the nose slightly turned toward the right side and the septum toward the left side. Dr. A. C. Wintermeyer, of Covington, Ky., her family physician, to whom I am greatly indebted for this case, tells me that she bears no other anomalies on her body.

Right Eye.—Cornea clear, anterior chamber and iris normal; pupil, like that of the left eye, is round and of normal reaction upon light and accommodation; consensual reaction prompt. Lids bear no irregularities but are slightly puffed, especially at the temporal side, where a solid prominence can be felt under the lower lid. Upon pulling the upper lid away from the globe, a bag-shaped tumor appears, which is dotted with fine lanugo and some long black hairs. They are arranged practically in one line along the longitudinal axis of the tumor, which terminates upward and downward in two conjunctival folds. The lower one is seen to fuse into another tumor of bulkier appearance, becoming more prominent as the lower lid is pulled downward, but of about the same length as the first. It bears less lanugo, but a greater number of long hairs, some measuring 14 and 16 mm. This second tumor sends a conjunctival fold up to the lower temporal margin of the cornea, where it terminates without touching it. Both tumors spring from the fornix, have a yellowish-pink hue and are freely movable. Each measures about 14 mm. in the longitudinal axis. There is a good deal of

epiphora and conjunctival irritation in both eyes, great photophobia, and also some white, sebaceous secretion on the exposed portions of the tumors of both eyes. (See Fig. 1.)

Left Eye.—Lids like those of the right eye, but upper lid more prominent. At the junction of the nasal to the middle third of the upper lid, there is an intimation of a coloboma, namely a notched defect of the palpebral margin, retracted and void of even a trace of cilia. Although small in extension, it is located at the favorite seat of the lid-colobomata. It is evident in Fig. 3. As the patient opens her eye, we see on the lower temporal quadrant of the cornea, a white opaque macula, about 2 mm. wide and situated right central of a yellowish-pink tumor, which ex-

FIG. 1.

tends over the margin for about 2 mm. (see Fig. 2). It is dotted with black hairs and extends downward and temporally to the fornix, where it forms a distinct demarcating sulcus before merging into another tumor. This tumor is situated nearly at right angles to the first, running along the fornix. Its lower termination extends below the spot where the two tumors meet and is slightly turned away from the fold of transition. The upper end, however, is seen to join a third tumor, which will bulge forward very bulkily upon pulling the upper lid up and toward the temporal side. This tumor is the largest and bears the longest hairs, some of which extend over the cornea or disappear in the upper fold of transition or hang over the lid. Some of them

measure from 8 to 12 millimeters. The tumor reaches along the fornix as far nasally as to point above the nasal corneo-scleral margin. A fourth tumor, which is absolutely isolated from the others, appears when the lower lid is pulled down. This is thinner and less protruding than the others, but reaches up to the semi-lunar fold, into the tissue of which it is seen to merge. It is void of hairs and lanugo. (See Fig. 3.)

The *ophthalmoscope* reveals in both eyes about 5 D. myopia and astigmatism, some floating opacities, but no chorio-retinal changes, although the patient complains of hemeralopia. The media of the right eye are clear; its disc shows a slight physiologic excavation. The left eye offers some interesting points: a

FIG. 2.

posterior polar cataract directly in the pole and a smaller paracentral dot a trifle above and nasally from the first. At the upper temporal margin of the disc we see a short brown line, which is slightly prominent, the rudiment of the hyaloid artery.

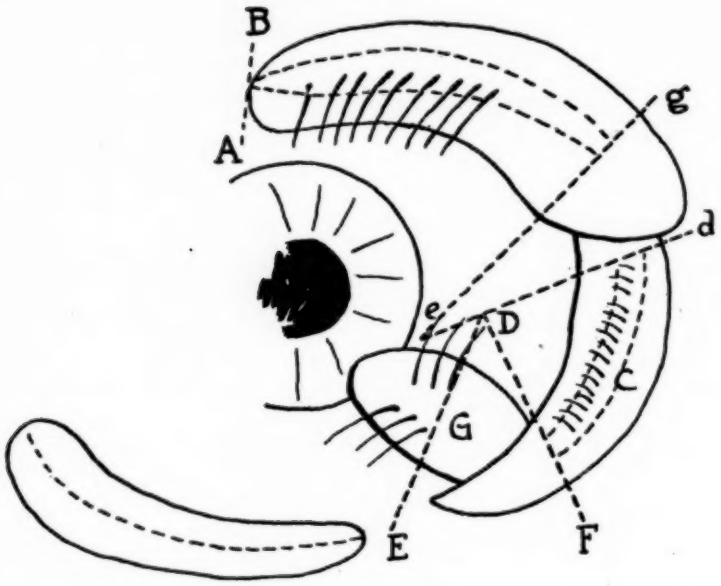
R.V.=15/100; L.V.=15/200. Exact test impossible on account of the photophobia.

The *operation* was performed under chloroform on July 9th, 1908. Week's speculum, Desmarres' elevators, or fingers were used in turn to separate the lids, as necessity demanded. Great care was taken to preserve as much of the conjunctival tissue as possible, so as to prevent the formation of shortening scars or of an actual symblepharon. (For orientation see the sketch.)

Left Eye.—The upper tumor was grasped with a forceps and a section made through the conjunctiva vertical to the long axis of the tumor, then two sections were made (with a Graefe knife) above and below the hairy ridge as far temporarily as to the junction with the adjoining tumor (c). After this the tumor was prepared free from its substratum. It proved to be isolated from the first tumor but for a few shreds and several folds of conjunctiva stretching from one tumor to the other. The tumor (G) crossing the corneal border was removed in the manner in which a pterygium is freed. After separating it from the cornea, with a Graefe knife, it had to be freed from Tenon's capsule, with which it was connected by emissary bands.

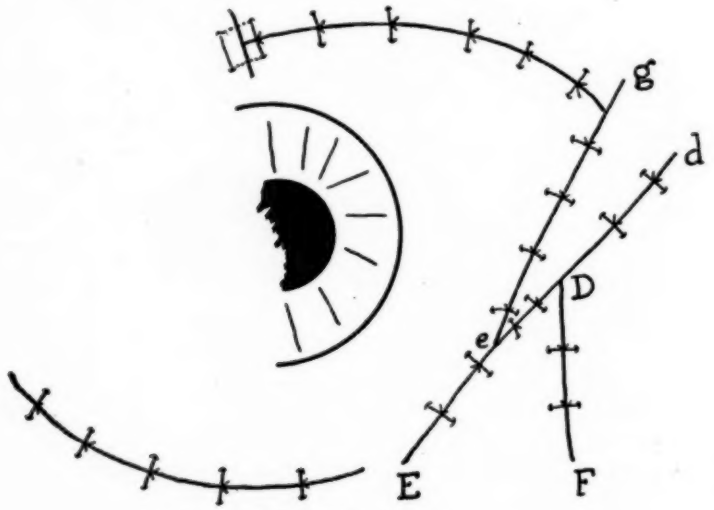
FIG. 3.

A similar condition was encountered in the first tumor. Over both the conjunctiva was immovable and covered with hairs, so that a good deal had to be sacrificed. Two important questions now presented themselves: first, the closure of the defect in the conjunctiva without recourse to subsequent skin-grafting, and, secondly, the prevention of a symblepharon. After complete removal of these tumors, a narrow strip of healthy conjunctiva (E, D, F,) was loosened from its fatty substratum by carefully dissecting it off with a Graefe knife. During this procedure the lids had to be turned inside out, so that neither a speculum nor elevators could be used. This rendered the task more difficult. The fourth tumor was readily removed. Only



Sketch I. Left Eye.

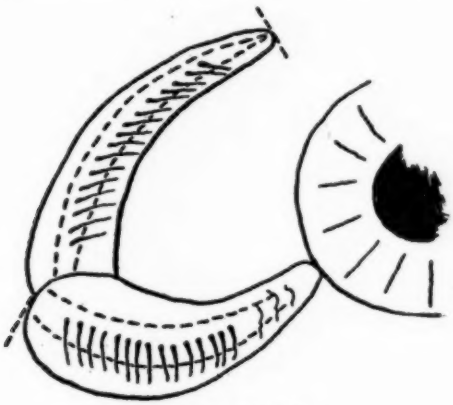
the narrow central ridge of the conjunctiva, which adhered to the tumor, had to be sacrificed. Adrenalin was instilled to stop



Sketch II. Left Eye.

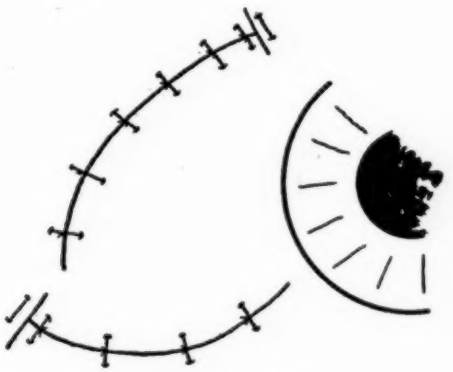
what little hæmorrhage had occurred, and a pad of cotton soaked in boric acid solution was placed over the eye, while the right eye was operated on. The wound of the left eye was closed in

the following manner (see sketch No. II). The nasal end of the wound left by removing the tumor under the upper lid, was united by a double-armed thread in the fashion of a mattress-suture, closing the short perpendicular section (A, B) and the



Sketch III. Right Eye.

nasal termination of the wound made along the hairy ridge of this tumor. Its temporal end was united in the same manner. Three simple sutures were considered sufficient to adapt the wound lips completely.



Sketch IV. Right Eye.

Besides the flap (E, D, F) another flap (g, e, d) was formed from that portion of the conjunctiva, which was loosely arranged like a bridge at the junction of the tumors near the external canthus. This second flap (g, e, d) with its apex turned toward the cornea was used in covering the upper half of the gap, while the first (E, D, F) was pulled up into close proximity to the

former. They were sewed to one another along their edges (D, E and d, e), and with deep sutures anchored to the episcleral tissue. After this, the proximal edge (e, g) of the upper flap, was united to the conjunctival tissue which remained between the upper portion of the gap and the cornea, while the distal edge (D, F) of the lower flap was united to the conjunctiva temporally to it. In this manner only a small defect remained near where the tumor had crossed the corneo-scleral border. There the tip (e) of the higher flap was fixed by a deep scleral suture, as they are used in advancement operations. The gap resulting after the removal of the tumor of the lower lid was closed in the same manner as that of the upper fornix.

Right Eye.—The right eye did not offer any difficulty. The baggy conjunctival fold, leading toward the cornea from below and temporally was slit and furnished tissue enough to cover a gap which was left after the removal of the canthus portion of the growths. The conjunctiva along the fornices was readily united, safe-guarding against the formation of a symblepharon. Usual toilette of the eyes. Bandage.

July 10th: No after-effect of the narcosis, no pain in the eyes. Had a good night's rest.

July 11th: First change of bandage; the lids were slightly swollen, some mucous discharge on the eye-lashes. Both corneæ free from irritation; sutures in position.

July 13th: Wounds free from reaction and healed; the flaps well adapted. Removed the sutures.

July 14th: Patient struck her left eye last night. The temporal third of the upper lid is red and more swollen, but nothing disturbed inside the lids.

July 15th: Eyes left open for the first time.

July 16th: Was allowed to read this afternoon.

On July 24th, the eyes were examined. Patient had never worn any glasses and was in the habit of closing her left eye whenever she wanted to see distinctly. When examined with the red glass, she had double-images, which, however, fused immediately. The muscles of the right eye were balanced, having, however, a tendency to esophoria; left eye slight esophoria.

R.V.=15/100; R—5.0=15/40. Near: Sn No=2. Finest print better without glasses. L.V.=10/100; L—3.0=15/150. This correction was ordered for the distance. In November, 1908, she had R—4.5⌣—0.5 c. ax. 180° V=15/30. Since then there was no change of the vision of her right eye. In the left she had

—2.0 c. ax. 90=+0.5 c. ax. 180°V=15/100. When seen last, on May 15th, 1912, her eyes were in perfect condition; her vision had not changed. She reports, however, that she is still troubled with difficulty of vision in subdued light and dusk. This symptom, hemeralopia, is frequently mentioned in connection with lipodermoids. The upper lid of the left eye is still slightly drooping, which leads me to believe that we have to deal with a distinct, though moderate degree of congenital ptosis. The pupils were normal in appearance and function.

MICROSCOPIC EXAMINATION.

The tumors were hardened in the usual manner with formalin and afterwards alcohol of increasing strength. All the tumors, excepting that of the corneo-scleral margin and that which was located below the lower lid of the left eye, offered the following constituents of lipodermoids. The surfaces, slightly uneven and furrowed by folds, which were, in a way, evident in life, are formed of several layers of epithelium. The cells are of varying height, being more cylindrical below. There are numerous cones and extensions stretching into the substratum, forming papillæ of irregular shape. Numerous hair follicles, with hairs of every caliber and several types of glands, appear in every section. Goblet-cells, closed or voiding their contents, are arranged in nests at several localities. The superficial epithelial cells are frequently horny, although this process of cornification is limited to only one or two layers. Many of these cells are being cast off or are fully detached from their neighbors. Below the epithelium we see a substratum formed of fat, which is strongly intermixed with blood-vessels of varying size, and connective tissue. It bears a few nerves and muscle-fibres at various localities.

The area forming the most prominent crests of the tumors, shows round and migrating cells, some proliferation of the epithelial cells and of the connective tissue, slight infiltration of the walls of the blood-vessels which are especially numerous here. The glands appear larger and send off larger lobes, the sweat glands are more coiled, their lumina wider and filled with a substance tinted by the eosin with a pink hue. Foci of inflammation can be seen surrounding the glands and affecting slightly their trabecles.

The tumor on the corneo-scleral margin shows a similar arrangement and the same constituents, but shows far stronger

cornification. The surface is covered by loose horny cells, a number of which are being detached singly or in small leaves, which are composed of three to five in a line, and show occasionally double rows. A great number of lanugo hairs and a few thick ones are distributed irregularly.

The great portion of all these tumors is made up of fat, interspersed with connective tissue strands, some larger alveolar glands, sweat glands, some bundles of muscle-fibres and the cross and longitudinal sections of numerous bloodvessels. Some of the epithelial cones extend far into this zone.

The type of the tumor of the left lower fold of transition is decidedly lipomatous, with but a few dermoid admixtures. Its epithelium is very thin, although composed of several layers of cells, forming an almost homogenously deep cover. There are no hairs and only a few glands in evidence; the cones extending from the epithelium are short and small, and limited to the zone directly below it. The connective tissue of this substratum is rather scant and bears no muscles or nerve-fibres. Neither does it contain the wealth of glands met with in the other tumors.

THIS CASE OFFERS THE FOLLOWING INTERESTING FEATURES:

(1) The double multiple lipodermoids were accompanied by a number of other anomalies; asymmetry of the face and deflection of the nose; coloboma and ptosis of one upper lid; congenital macula corneæ of the left eye; posterior polar and posterior punctate cataract, also rudiment of the hyaloid artery in the left eye; hemeralopia, astigmatism and a certain degree of amblyopia; polyotic growths; consanguinity of the parents. Similar changes in the lens have not been reported in any publication. Their presence is not surprising, because every conceivable malformation may occur. Hanke[1] found even an intraocular dermoid and he, as well as E. von Hippel,[2] found rudimentary eyeballs hidden in the lipo-dermoid masses. In one of Hippel's cases the eyecup had not closed and a rudiment of the lens was found imbedded in the dermoid tissue covering the eye. This condition proves to him the correctness of the "amniotic" theory. De Kleijn and Nieuwenhuysen[3] express the same opinion in a very interesting article on malformations caused by intra-uterine injury. Van Duyse's[4] theory of the dermoids being due to amniotic adhesions to the eye, is also supported by Lannelongue and Vassaux. Ptosis and deformity of the papilla were found by C. Hirsch[17] in a case published by him this summer.

(2) The number of individual growths in each eye is un-

usual. More than two are rarely met with in one eye. Ayres[5] quotes a case of Noyes, with three; Hommelsheim[6] one of Gand, with the same number; while Saemisch[7] mentions no case of more than two, with the exception of Kotter's case of a baby with several tumors of the corneo-scleral margin. Wagenmann,[8] in his recent article, does not refer but to one of Nobbe's cases with two corneo-scleral and one conjunctival growths in one eye of a child, and to one case of his own[9] with one corneo-scleral and two sub-conjunctival lipodermoids. The condition of the left eye with four distinctly separated growths is unique up to the present date. The closest resemblance to this case as regards number of growths is borne by an illustration in the text-book of Fuchs.[10] The foot-note, however, explains that one growth consists of three lobules.

(3) The simultaneous occurrence of corneo-scleral and sub-conjunctival growths of the folds of transition and their "confluence" is noteworthy. Only four such cases have been reported: two by von Graefe,[11-12] one by Riecke[13] and one by A. Alt.[14] This confluence is for Wagenmann (l.c.) one of the proofs for the relationship of the two types of lipodermoids and for their analogous origin with the teratoid formations. Up to the publication of Graefe's second case, the simulataneous presence of these two species had been doubted. In addition it may be said that Hommelsheim (l.c., p. 43) published four cases of Vossius, in which the growths extended from the fold of transition to the cornea.

(4) An inspection of the accompanying sketch shows a certain symmetrical arrangement of the growths of both eyes. Vossius[15] has pointed to this symmetry in pure subconjunctival lipomata, while Landolt[16] demonstrated a case with a similar symmetrical condition of lipodermoids of the upper fornices.

(5) Very extraordinary is the presence of the entirely isolated growth on the lower fornix of the left eye. Its location and nature are equally unusual. It is void of hairs and practically free from glandular and cutaneous formations. This condition renders it a close relative to the pure lipomata of the fold of transition. The existence of pure lipomata in this region has been denied or doubted by Nobbe,[18] Ewetzky,[19] and Riecke.[13] Other writers, like Rogman,[20] Lagrange,[21] and Ahlström,[22] made serial sections and found them, following Nobbe's suggestion, who demanded for the diagnosis of a pure sub-conjunctival lipoma, the proof of serial sections.

(6) The presence in this case, of long hairs on the conjunctival growths of the folds of transition, is rare according to Wagenmann (l.c., p. 511). He quotes one case in which such hairs grew 2.5 cm. within six weeks. Nobbe mentions two similar cases with hairs measuring 0.7 cm., and Hommelsheim[6] refers to one of Bögel's[23] cases where hairs were found in the same location and also on a tumor situated near the external canthus similarly to our case.

(7) The location of the growth is unusual. Nobbe found 70 per cent. of his lipodermoids situated in the area between the superior and temporal recti muscles, although their location in other parts of the conjunctival sac is by no means rare. In a case of Hirschberg and Birnbacher[24] they were found in and behind the equator of the eye. The seat of one tumor at the external canthus of the left eye of our patient is rare, and occurred only in three more cases, referred to by C. Hirsch.[17] The location of the fourth tumor of the left eye on the lower fornix is unparalleled. Typical is the location of the small coloboma of the upper lids. It is too small and the tumors are too large to establish any idea as to their correspondence in position, to which Kosticz[25] referred when demonstrating a strikingly illustrative case last year.

(8) All the growths in both eyes were freely movable with the exception of the one crossing the corneal margin. This is contrary to the differential diagnostic postulate between pure lipomata and dermolipomata of the conjunctiva made by some textbooks. They declare the former movable, the latter attached to the sclera by emissary fibres continuous with those of the sclera. The emissary fibres described above did not lessen the movability of the growths in the present case. Of a number of similar cases, one of Natanson[26] may be mentioned. Our case is also an exception to the rule of Nobbe, which was recently accepted by Wagenmann, that the corneo-scleral growths represent more purely the lipodermoid character, while those of the periphery and of the fornices are poorer of cutaneous formation.

(9) Symptoms of irritation and inflammation were observed in accordance with several publications. It is remarkable that these growths show no tendency to become malignant. All the formations derived from the three germinal layers have been found in them. Hippel[27] found even elements of the respiratory and alimentary tracts in one lipodermoid. Only one case of

malignant degeneration was published by Gunn,[28] who discovered fibrous cartilage in a subconjunctival dermoid. Gallenga[29] contended that here the glandular tissue had undergone a degenerative change into fibrous connective tissue and cartilage. The tumor represented, in his opinion, a chondro-fibroma or chondroma.

(10) These growths, causing Miss W. J. certain discomfort during her whole life, became more annoying about her thirtieth year. According to Saemisch (l.c., p. 608) this is abnormal; the process of growing commonly ceases about the age of puberty. Exceptions to this rule are met with. Wallenberg[30] describes the case of a man in whom the lipodermoids became troublesome not before his 25th year of life. The opinion of von Graefe is accepted that the more abundant the fat in conjunctival tumors, the greater the probability of their growing in later years. In our case, however, the isolated and almost purely lipomatous tumor on the left lower fornix was the smallest.

(11) Like the larger percentage of patients afflicted with this type of growths, ours was a woman. Nine of 13 cases described by Hommelsheim[6] belonged to the female sex. He quotes Hock, stating, in 1877, that "almost every known case occurred in females." This predominence may be explained by the fact that the greater portion of these benign growths cause no discomfort and that their removal is sought merely for cosmetic purposes in many instances.

(12) As to cornification of the epithelium, this case is an exception to Parsons'[33] stipulation, who said, that the conjunctiva becomes horny where it projects between the lids. In our case this change took place in a distinct, though lesser degree, on the ridges or crests of some portions constantly covered by the lids. There was, however, in this case, no evidence of cartilage as described by Gallenga, Alt, Riecke; nor of bone as found by Wagenmann, Gallenga, Ahlström, Contino[31] in subconjunctival lipodermoids, and by Cohn[32] in a dermoid of the cornea.

(13) The operation is rarely as complicated as that performed on Miss W. J.'s left eye, although some detailed descriptions were deemed necessary by some authors, like Wagenmann (l.c.) and Baquis[34] and Hirschberg.[24]

(14) That complete removal of these formations renders a relapse impossible, is obvious.

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ON CERTAIN OCULAR PHÆNOMENA IN THEIR RELATION TO THE DIAGNOSIS OF INTRACRANIAL DISEASE.*

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Fully aware that the members of the Society have been rather surfeited lately with set papers on the subject of ocular lesions as an aid to the diagnosis of intracranial disease, I shall limit my remarks to the consideration of a few important points, especially those exemplified in the histories of three cases, which I shall report to the Society.

Cushing has emphasized the value of a transient abducens paresis as an important, and often the earliest, symptom of increased intracranial pressure. Dr. Sachs, in a paper read before the Ophthalmic section of the St. Louis Medical Society, referred to a case where this was the first sign of trouble—shown subjectively by an intermittent diplopia. I shall speak of this case more in detail later, as one presenting many interesting features.

The fact that we occasionally find an abducens palsy as the first sign post, pointing to an approaching tabes, or cerebral syphilis, makes a close study of this symptom of the greatest moment. Its transient nature renders any conclusion that may be drawn from the use of mercury or potassium iodide entirely useless. The employment of the Wassermann reaction, a continuous and careful observation of the pupillary reactions, repeated takings of the fields of vision, watching of the optic discs over prolonged periods of time, all may be necessary for an eventual correct diagnosis.

The explanation of the abducens paresis in increased intracranial pressure which seems to be generally accepted is the one offered by Cushing—that it is caused by direct pressure upon the nerve by the basilar artery in its course over the pons—the nerve lying between the artery and the pons. In the case referred to above and mentioned by Dr. Sachs as an example of this condition, as well as in tumors generally of the base of the skull and the pons, a more probable explanation would be, it seems to me, that of direct pressure upon the nerve. Either lying between the growth and the resistant pons above—or the growth and the bony structure beneath.

*Read before the St. Louis Ophthalmological Society, Dec. 9, 1912.

A reason for the abducens paresis as an early symptom of tabes has not been, as far as I know, satisfactorily given.

The involvement of the oculomotorius is, in a great majority of the cases, of nuclear origin. This is especially true in a paralysis of the accommodation with dilatation of the pupil—phænomena strongly pointing to cerebral syphilis. Its affection in tabes, multiple sclerosis, syringomyelia is usually at a stage where the diagnosis is materially aided by other signs of the disease. Emerging in front of the pons, running forward well to the side of the sella turcica, it seems to escape any effect of an increased intracranial tension, and is rarely directly affected by any growth at the base of the skull. Yet that its involvement does occur and can be of diagnostic value when associated with other ocular symptoms is shown by a case which I shall describe later. Here the connection of the nucleus of the third nerve with the superior colliculus and the visual cortical area through the corticofugal secondary optic radiations might explain the clinical phænomena.

Bitemporal hemianopsia, as you know, bespeaks an involvement of the crossed fibres in the anterior or posterior part of the chiasm. If the sense of smell is at the same time affected, this would point to a lesion of the anterior portion of the chiasm. An extension of the lesion backwards, involving the tracts immediately behind the chiasm, would give very positive evidence of its location.

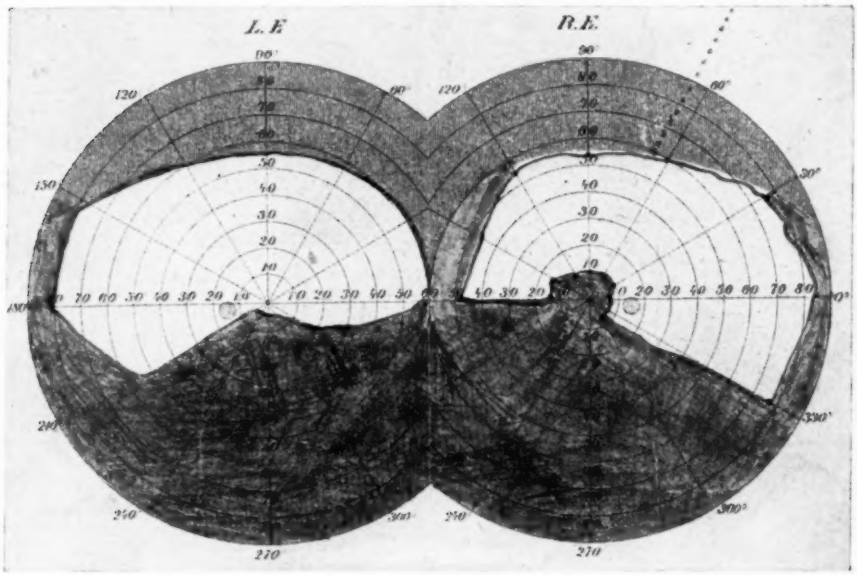
In homonymous hemianopsia, there are certain conditions of value in localizing the diseased process. Where there are sector defects with the part peripheral to the defect intact, or with more or less complete hemianopsia with central vision unaffected, an involvement of the cortical area is indicated. On the other hand, when the involvement of the fields extends from the periphery centralwards, eventually including the macular fibres, especially when both crossed and uncrossed fibres are affected either above or below, the process is evidently in the tracts—this latter condition being well shown in the first case which I shall report.

The histories of the following three cases are illustrative of the points to which I have briefly called your attention.

Case I.—C. C., age 33, male, was referred to me by Dr. Fry November 6, 1911. The first symptom of trouble was a diplopia, appearing in January, 1910, which was transient. Some weeks later the patient began to suffer from headaches, which were

attributed to the use of the eyes in near work. It was not until August that these became sufficiently severe to cause the patient to seek a consultation. He was then examined by Dr. A. E. Ewing, who found his vision 20/'9+ in each eye. The fundi were normal. At this time the excursion of the right eye was only 45° outwards on forced abduction. The patient was again examined by Dr. Ewing in October and the condition found unchanged. The man was not seen again until November of the following year (1911), when he was brought to Dr. Fry, almost two years after the initial symptom of right abducens paresis.

Date, November 6, 1911.
Test Object. 1 cc. sq. motion



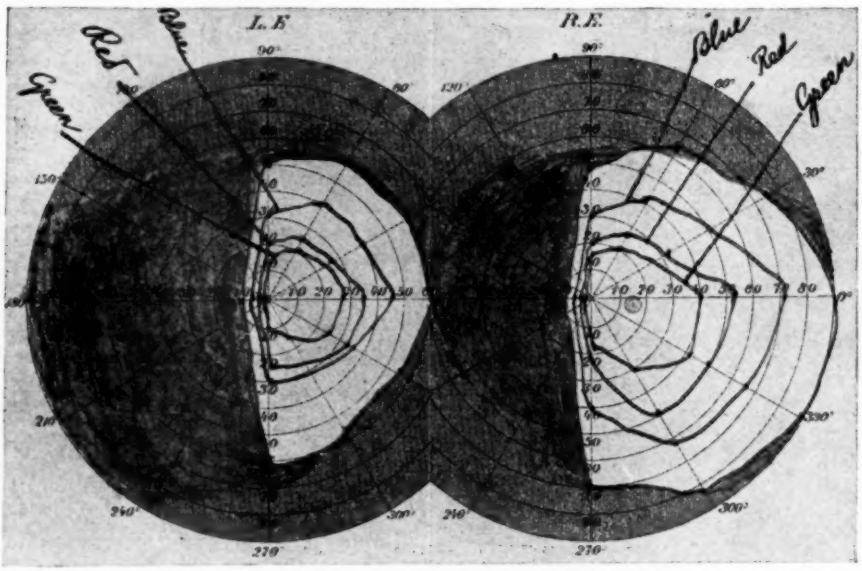
Case I.

The headaches had become paroxysmally very severe, latterly accompanied by intense vertigo and vomiting. The patient had often to raise himself very slowly to prevent the extreme vertigo. The right side of the pharynx, back of the pillar, was found hyperæsthetic to cotton and pressure. Tongue possibly hyperæsthetic, and somewhat tremulous on protrusion—more marked on left side.

The ocular examination showed the vision of the right eye to equal movements of hand at one foot. Vision of left eye 3/75. The right optic disc was markedly atrophic, the left showed a

choked disc of six dioptres. There was a complete loss of the lower half of the right field of vision except 30° below the horizontal line of the temporal side, together with a complete involvement of the macular region. (See Fig.) The left field gave a similar condition with the exception of the preservation of central vision (3/75). The right pupil was somewhat larger than the left—both reacting to light and accommodation. The action of the extrinsic muscles was good, except of the right abducens on extreme abduction. The ocular symptoms here clearly pointed to a lesion of both tracts. The post-mortem findings verified this.

Date, July 23, 1912.
Test Object, 1 cc. sq.



Case II.

The tumor was found to be an osteosarcoma, evidently starting from the dorsum sellæ, extending somewhat backward, there originally pressing the sixth nerve against the tense anterior part of the pons. But the growth of the tumor was mainly forwards, replacing entirely the posterior lobe of the pituitary body and part of the anterior lobe.

Case II.—B. G., age 12 years, male. First examined April 4th, 1912. During the previous December the patient began to have "attacks." At first about two a week. The first symptom would be a twitching and turning of the eyes to the left. The attack

could sometimes be averted by covering the eyes with the hands. Later the left arm began to twitch and draw, often to such an extent that the patient could only use the right hand to cover the eyes in an effort to stop the attack. If standing, the patient would occasionally fall, but not lose consciousness, according to the statement of the parent. Lately the attacks had become more frequent, sometimes four a day (attributed by the parents to too much eating of meat). Mentally good, disposition good; very little, if any, headache.

Ocular examination showed central vision normal in each eye (20/15, Green's test types). The ophthalmoscope gave nothing positive—the left disc possibly hyperæmic as compared to the right, veins somewhat larger, slightly more tortuous.

On covering the left eye, there occurred a marked turning of the eye outwards and upwards, the vertical axis rotating inwards. On examination of the fields of vision there was discovered a left homonymous hemianopsia to within ten degrees of the fixation point. (See Fig.) The lesion here is evidently situated in the right cortical area—the only explanation of the perfect preservation of the macular fibres in such a complete hemianopsia. The partial involvement of the left oculomotorius might be explained by the connection of the superior colliculus to the nucleus of the oculomotorius of the opposite side, as I mentioned above.

Case III.—C. P., age 28 years, male. Patient was examined March 17, 1911, perparatory to an injection of salvarsan. The eyes were found normal. In the latter part of August of the same year the patient became frightened on noticing a diminution of vision of the right eye, thinking the condition was due to the use of the salvarsan. When he reported on September 1st, a right sided homonymous hemianopsia was found, not complete, but affecting the central vision of the right eye to a slight extent. The condition was accompanied by severe headaches. A diagnosis of a basilar meningitis, affecting the left tract was made. Under intramuscular injections of mercury, the condition rapidly disappeared.

NOTES ON A CASE OF UNILATERAL BUPHTHALMOS, IN WHICH A POSITIVE WASSERMANN REACTION WAS OBTAINED.

By Samuel Horton Brown, M.D.
PHILADELPHIA, PA.

The patient in this case was a little Italian school girl, about eleven years of age, born in this country, and rather undeveloped physically, although her mental faculties were greatly in excess of what would be expected, considering her physical and ocular infirmities.

The right eye was normal except for a faint haze of the cornea and marginal blepharitis and its vision was 6/60 without glass, and the refraction showed high compound hyperopic astigmatism. The correcting lens brought it up to 6/30. The other media were clear and the fundus was negative.

The left eye showed pronounced enlargement of the eye in all of its diameters and the cornea was especially large. This eye also showed evidence of marginal blepharitis, chronic catarrhal conjunctivitis, maculæ corneæ, and congenital cataract. No view of the fundus was obtainable. The vision was scarcely more than light perception. Examination of the refraction was unsatisfactory, although the retinoscope showed reversal in the meridian of greatest refraction when a plus 4.25 was placed before the eye.

Examination of the blood in this case showed, hæmoglobin, 75 per cent.; red blood cells, 4,050.000; white blood cells, 10,000. The differential leucocyte count showed, polymorphonuclear, 80; small mononuclear, 18; large mononuclear, 2. The Wassermann test made by the Noguchi method was positive plus two.

The case is of interest largely because this is perhaps one of the earliest instances in which this condition, usually regarded as a sequence of congenital syphilis, has been scientifically demonstrated to be present in the course of the disease. Dr. Wm. Zentmayer, of Philadelphia, in a personal communication to the writer, has observed the condition of buphthalmos rather frequently in the colored race, more frequently than in the white race in fact, and leans to the opinion that the condition must be in some way related to syphilis, which is very common in its congenital form among negro children. Dr. P. N. K. Schwenk, also

of Philadelphia, and of the Wills Hospital staff, states that most of the cases he has observed have been secondary to interstitial keratitis. He also observes that while the eye is large the refraction defect is usually hyperopic or compound hyperopic astigmatism, an observation which was confirmed in this case.

OPERATIVE MEASURES CAPABLE OF MODIFYING INTRA-OCULAR TENSION.

F. Lagrange (*Bulletin de Académie de Médecine,* June 4, 1912) finds, in reviewing recent international medical literature, that his operation of sclerectomy for the relief of glaucoma is being quite generally accepted. Lately he has been treating detachment of the retina by the reverse of this method, that is he aims to decrease the outflow of the intra-ocular fluids, in place of trying to increase this outflow as in the operation for glaucoma. He tries to do this by the production of fibrous tissue at the places where the transudation is likely to occur. He calls his method "colmatage," which is an agricultural term used to designate artificially raising the level and fertilizing low land. He has found the most effective and least harmful method of accomplishing this to be by galvanocauterizing, superficially, with a thin, flat blade, over the surface of the anterior part of the sclera, after making a circular equatorial incision of the conjunctiva and turning it back. In addition to this a 10 per cent. salt solution is injected sub-conjunctivally posteriorly. Thus the intra-ocular fluid is prevented from escaping through the sclera in front and behind and can only pass out along the optic nerve. This gradually brings about an increase of the tension of the eyeball and thus aids in getting the retina back to its place. Lagrange has used this method quite extensively during the past year and while the results have not been conclusive yet they have been very encouraging, the tension of the eyeball being raised in every case. Although this in itself is not sufficient to cure detachment of the retina, still it is of considerable assistance, and this treatment has brought about reattachment by itself in cases due to high myopia or after trauma. Where it is of inflammatory or congenital origin, blood-letting, mercurial inunctions and mercurial treatment in general should supplement the treatment, to assist in removing the cause which should always be sought.

WHO? HOW? WHEN?

By H. B. Young, A.M., M.D.,
BURLINGTON, IOWA.

If one reflects upon the plan to create the new degree, "Doctor of Ophthalmology", as tentatively endorsed by the Ophthalmic Section of the American Academy at the Niagara Falls meeting in August, or even that to establish a course which will designate its patrons more distinctively as surgeons, as approved at the recent New York meeting of the Clinical Congress of Surgeons, he is perhaps fortunate if he does not recall the late Artemus Ward's scheme for preventing incompetency and jealousy in his military company, viz: "No privates, every one to be enlisted as Brig. Gen'l." Not that there is any question about the desirability or necessity of better qualifications for those who will specialize, but rather a very large question of, WHO may properly be considered as teachers, HOW they will be selected, and WHEN will they be able to offer a real "quid pro quo"; not only these but WHO is to satisfy the public that these new titles mean more than the host of those gotten more easily, HOW is it to be done without the liberal use of "printer's ink", and WHEN are the holders of these titles to be more than beginners?

Nor is it to be denied that "surgery has suffered from the failures of the inefficient and illy prepared"; but WHO is to say to his young colleague, "This is too heavy a task for you," and WHEN and HOW shall he say it? The man with the third of a century's experience, plus a fair record for dilligence, knowledge, and success, will doubtless, on the average, render better service than the younger man, no matter how well grounded he may be; and the former may be, perhaps has been, at times sorely tempted to make some remarks to this effect. If, however, he has not forgotten his own early trials, and the uncertainty which must always attend the outcome in any serious undertaking, he can do so only at the price of violating that sense of the proprieties which his position should have developed. And then there is the inalienable right of the patient to decide according to his "lights" and his bank account.

Ridicule of medicine as a science, and more particularly its exponents, may be deserved so long as measures looking to *designated* differences between the qualified and the unqualified claim so much attention in medical gatherings. All hail to the extra

courses of instruction; but down with the extra degrees! A doctor can be nothing greater than "Doctor"; and he should be nothing less, qualifications, conscience, and all. Moreover the lack of the "conscience and all" may not be balanced by extra qualifications, certainly not by extra degrees. The right sort of man will make headway without, as well as with, special titles, and his work is the measure of his standing.

Charlatanry has means of attracting business which it is best not to imitate.

GONORRHŒAL IRIDO-CYCLITIS, WITH OBSERVATIONS ON ITS RELATION TO SO-CALLED "RHEUMATIC IRITIS."

A. S. Cobbledick (*The Ophthalmoscope*, December, 1912), reports a number of cases of acute irido-cyclitis occurring in patients who had previously had one or more attacks of gonorrhœal urethritis and in all but one of whom the gonococci were found in the urethral discharge secured at the time of the ocular trouble. In concluding his paper he says: I am of opinion that the acute cases which in the past have been classed as "rheumatic" are mostly, if not all, gonorrhœal in origin, and that the gonococcus is by far the most common cause of *acute* irido-cyclitis. I admit that the gonococcus has never been found in the aqueous.

Byers, from his pathological examination of an eye suffering from gonorrhœal irido-cyclitis, concludes that the inflammation is the result of a toxin. If this is the case, it should be feasible to prevent recurrences by curing the discharge, and it is the ophthalmic surgeon's duty to urge on his patient the importance of special treatment for the urethral disease in order to lessen the possibility of recurrence of the eye trouble.

The presence of the gonococcus in the urethra and its diverticula is so constant in these cases of irido-cyclitis that it must be looked upon as the cause. It must also be admitted that in addition to the gonococcus there were present numerous staphylococci in most of the urinary deposits. I do not regard these as a likely cause of the *acute* eye condition; for in my experience, chronic septic processes chiefly produce a chronic irido-cyclitis, with much cellular deposit on the cornea.

MEDICAL SOCIETIES

OPHTHALMIC SECTION
St. Louis Medical Society.

November 6, 1912.

Dr. J. Green, Jr., in the Chair.

Case Report.—By Dr. W. E. Shahan.

This case, which I wish to mention briefly, is of special interest because of the removal of a piece of steel from one eye through the original wound by means of a small hand magnet. The patient came to our office November 4th, with a history of being struck in the right eye by a small chip of steel which flew off from a hammer he was using, four days previously. There was a clean cut about 4 mm. long in the upper nasal quadrant of the cornea and a corresponding cut, somewhat further nasalward, in the anterior capsule of the lens. The lens was clouded over the whole of the nasal half. The sideroscope gave positive reactions to a magnetic foreign body. The pupil was only half dilated and the foreign body was not visible by means of the ophthalmoscope. The next day, under full mydriasis, the foreign body was plainly visible, even with oblique illumination, suspended by fine threads in the vitreous behind the lower nasal quadrant of the lens. It responded so promptly to magnetic influence that it was thought advisable to try to draw it around the lens through the zonule of Zinn into the anterior chamber, somewhat after the method of Haab. The giant magnet was used without success. The hand magnet, with one of the shorter heavier points, was then used, the point being held at times directly against the sclera and cornea, as near the foreign body as possible. After some manipulation, the iris began to protrude at a point near where the foreign body was known to be. After some further manipulation, the point of the magnet being very near the original wound, but not touching it, there was a sudden gush of aqueous and the fragment of steel was found clinging to the point of the magnet. The eye has been perfectly quiet since.

DISCUSSION.

Dr. Carl Barck: In this connection I would like to report a case, which I saw about two weeks ago, and then put a question before this Society. The patient was a young man, about 20 years old. His right eye had been injured when he was a child and in consequence a traumatic cataract had developed. This cataract was needled by a confrére about five years ago with a good result as to vision. The eye was perfectly quiet, until a few days ago when he struck it with a piece of wood. Since then increasing inflammation.

When he came to me, I found in the anterior chamber, in front of the iris, a piece of capsule, about 2 mm. in diameter. It was situated at the bottom of the chamber in the erect position of the patient but easily movable. At one end of this piece of capsule and somewhat hidden by it, there was a small black spot or body. At first I took it for some iris pigment, but as it seemed rather large I placed the patient in front of the giant magnet. The magnet pulled it forward at once. This, of course, established the diagnosis that it was a piece of steel or iron. After a corneal section downward the piece was easily removed with the hand-magnet. It was much more difficult to remove the piece of capsule with the forceps, because it had become fixed in the lowest portion of the chamber. The recovery was uneventful.

We have here a case where a piece of steel had been tolerated by the eye for about fourteen years without any irritative or other symptoms. In all probability the piece had entered the lens and remained there until the physician needled the cataract. Afterwards it was probably in such a situation, held or surrounded by a portion of the capsule, that irritation was prevented. The recent injury dislodged it and then inflammatory symptoms set in.

The question I want to bring up is, What is the best method of procedure in cases where the foreign body entered through the sclera without injury to the lens? Haab of Zuerich recommends also in such instances to draw the piece with the giant magnet around the periphery of the lens and then through the pupil into the anterior chamber and remove it from there after a corneal section. This seems to me a dangerous procedure. It is of course possible to avoid injury to the lens during this maneuvre, as it has been done. But it was not certain that such injury can be prevented; the slightest unruliness of the patient will produce it. I believe that it is preferable in such instances to re-

move the piece through the sclera with the hand-magnet; either through the old wound, when the case is seen early enough, or by a new scleral incision. The danger of introducing instruments into the vitreous has in my opinion been overestimated. My personal experiences with the small magnet have been quite satisfactory.

Dr. Shahan, in closing: It has been best, according to the experience of our office, to make an incision through the sclera and draw out a magnetic foreign body with the point of a small magnet, as Dr. Barck has described. But this case seemed to be very favorable for the other method and it was therefore attempted with the above result.

A Case Report.—By Dr. John Green, Jr.

It is generally agreed among ophthalmologists that salvarsan has proved strikingly efficacious in many syphilitic ocular disorders, such as iritis, choroiditis, etc. Curious enough, interstitial keratitis occurring in subjects of hereditary syphilis, has seemed, as a rule, not to be favorably influenced. The writer has had occasion to investigate the literature bearing on this question and it appears that present ophthalmic opinion tends to a belief in the greater efficiency in this affection of mercury and the iodides. From this point of view the following case is of interest:

K. V., age 7, came to my service at the Children's Hospital, September 18, 1912. The mother stated that one month previously the right eye had become inflamed following a slight injury (finger thrust in eye). Two weeks later the left eye also became inflamed. He had been treated at a local eye clinic and the eyes had steadily grown worse. The boy presented a typical picture of a bilateral interstitial keratitis. Dr. T. C. Hempelmann, to whom the patient was referred for general examination, elicited the following additional facts: The patient was an only child; the mother had had no miscarriages. He was a full term infant and breast-fed for nine months. No diarrhœa or constipation in infancy. Father died of tuberculosis. Patient has had pertussis, measles, but no scarlet fever or diphtheria. Has been somewhat nervous since eyes became sore. Physical examination showed the heart and lungs normal, the spleen palpable, the liver not enlarged. The boy exhibited well marked scaphoid scapulæ, epitrochlear glands on both sides enlarged, the axillary, cervical and inguinal glands slightly enlarged. Wasser-

mann strongly positive. The boy was first put on syrupus ferri iodati, twenty drops three times a day, with some improvement. On Oct. 11th .3 gram neosalvarsan was injected into the buttocks. There was prompt and striking improvement in the eyes so that by the 30th when he returned for a second injection of a .25 gram the photophobia had entirely disappeared, and the corneæ had notably cleared.

DISCUSSION.

Dr. Woodruff: This case I have to report is a case of a girl 11 or 12 years of age, giving and having given for a number of years all the marked symptoms of interstitial keratitis and hereditary lues. The child has been under treatment for eight years, two years with one physician, five years with another and a year ago last August she came to me. The child was given two injections of salvarsan. She had been troubled with a great deal of photophobia, so much that she was unable to look at a book or to use a pair of scissors, etc. Had had repeated acute exacerbations of the trouble. Since about October a year ago she has been going to school steadily, not missing a day and has made a steady progress and has grown physically very markedly. I had a Wassermann done on Monday of this week and have the report that the condition is still positive. I shall have an injection of neosalvarsan given her at once. This case to me was exceedingly interesting because I knew the character of the treatment she had had before she had the salvarsan. Her general health has improved greatly and she has developed and grown, I should say, two inches in this last year.

Dr. Shahan: The case to which Dr. Woodruff refers came under our care some years ago. She was under our care for five years and had been given from $^1/_{12}$ to $^1/_{24}$ of a grain of bichloride of mercury three times a day continuously. She was given two doses of salvarsan and I watched her through that period at the Skin and Cancer Hospital. The reaction was pretty severe. She had a great deal of pain, but almost immediate marked improvement in her symptoms was noted. When I last saw her the photophobia had about ceased.

Dr. Shoemaker: I should like to ask the members of the Section whether any of you have gotten good results from the use of dionin in the late stages of parenchymatous keratitis, when the inflammatory symptoms have subsided, but there still remains considerable opacity of the cornea?

Dr. Woodruff: In this case the cornea cleared very markedly,

but I have been using in addition to general treatment a solution of dionin. Whether it was the salvarsan that did the work or the dionin is somewhat of a question.

Dr. Loeb: I wish to take exception to the last remark. I have had a case of distinct improvement in a clinical case of a bilateral interstitial keratitis under the use of dionin. When the patient came to me the pupil was contracted as far as I could make out. The opacity was so dense that hardly any of the pupil or iris could be seen. The acute process had entirely disappeared, very little injection remaining. I put the patient on internal treatment of hydrarg. cum creta and locally used atropin. After the pupil had been dilated sufficiently to get rid of any adhesions that were present, I put the patient on daily instillations of dionin. The cornea has cleared up, in one eye there is a slight opacity in the form of a minor scar and the other eye has a few scattering opacities. It was the dionin I feel convinced that cleared the eye. I have seen numerous cases improve under the use of this drug.

The Relationship of the Posterior Lens Capsule and the Vitreous.—By Dr. Carl Barck.

The general view maintained by advocates of "extraction within the capsule" that a perfectly clear pupillary area is obtained has not always proved true in the author's experience. In a number of instances a haziness or an opacity in the anterior layers of the vitreous was present. Similar observations have been reported by others. Investigations of the writings of such authorities as Morris, Piersol, Schwalbe, Salzmann, Greef, Parsons and others as to the presence or absence of a direct connection between the posterior capsule of the lens and the anterior layers of the vitreous revealed widely varying and sometimes directly contradictory views. If there is a direct and intimate connection, laceration of the anterior layers of the vitreous may be expected from removal of the lens in its capsule; if there is no connection or a loose one, clear pupillary areas may be expected. In order to decide this question practically the author cut away the cornea and iris and carefully covered the fibres of the zonule of Zinn from the eyes of oxen and rabbits, and found that when the eyes were held so that the lenses were down, the lenses did not fall freely from the patellar fossæ of their own weight but that considerable force was required to remove them. Also when the parts about the vitreous were cut away, and the vitreous held downward, the major part of the vitreous fell, but par-

ticles were always left adherent to the posterior surface of the lens. This, in the author's mind, at least in the case of these animals, proves that there is a distinct and fairly strong adhesion between the posterior lens capsule and the vitreous in the patellar fossa. Investigations of this same nature will be conducted later on human eyes.

DISCUSSION.

Dr. Shahan: Considering the problem from an embryologic standpoint, it is also quite probable that there is some connection between the anterior portion of the vitreous and the posterior surface of the lens. It is well known that during one period of embryonic development, the hyaloid artery ramifies in the vitreous and forms an intricate network on the posterior surface of the lens. And although this artery with it glial mantle, the central vitreous body of Retzius, disappears in late embryonic life, it is difficult to believe that it disappears so completely as to leave the lens and vitreous completely separated by perfectly clean surfaces. It is much more probable that there are fibrillar remains of these early structures extending from the posterior lens capsule into the vitreous so that when the lens is removed in its capsule these fibrils are uprooted with consequent laceration, and occasional clouding of the anterior surface of the vitreous. It is not at all unusual to see remains of the hyaloid artery on the posterior surface of adult lenses during routine ophthalmoscopic examinations.

Dr. J. Gross: I am not sure, but it may be of interest to you to know that Dr. Ewing has been devising forceps for cutting and removing the anterior lens capsule in the extraction of cataract. I think he has published some of these results in the AMERICAN JOURNAL OF OPHTHALMOLOGY. I have seen Dr. Ewing operate with these forceps in two or three cases and the results were very satisfactory. I suppose if you could pull out the entire lens capsule with any kind of a forceps without cutting it up it would be better still, but I have my doubts as to the possibility of that.

Dr. Shahan: With regard to the use of capsule forceps, I had the opportunity of seeing them frequently used in various parts of Europe and England. They appear to be quite universally used as a routine on the continent, but in London apparently not so freely. I was struck by the fact, which may have been accidental, of seeing more needle operations in a few days in London than I saw in several months on the continent.

Dr. Barck, in closing: I believe that if we would find a reliable method to remove the entire anterior capsule and lens, this method would be preferable to the extraction of the lens in the capsule, because less dangerous and because the vitreous is left intact.

As to the embryological question, brought up by Dr. Shahan, we know of course that the vitreous develops from the mesoderm and the lens from the ectoderm. But this has, in my opinion, little bearing on the practical side of the question. For in spite of development from different embryological layers, the two membranes may become afterwards so intimately united, as to become practically one. This happens in other parts of the human body.

ABSTRACTS FROM MEDICAL LITERATURE.

By J. F. Shoemaker, M.D.,
St. Louis, Mo.

TRANSPLANTATION OF THE HUMAN CORNEA PREVIOUSLY PRESERVED IN AN ANTISEPTIC FLUID.

A. Magitot (*Jour. A. M. A.*, July 6, 1912), having successfully transplanted a corneal graft, taken from a lower animal and preserved a number of days in blood serum at a temperature slightly above 0 C., upon the eye of another animal of the same species, determined to try the operation upon a human eye. The opportunity presented itself in the case of a boy 14 years of age, who had a large cicatricial pterygium, the result of a burn from quick lime several years previous. With the exception of a small spot in the upper, inner quadrant the entire cornea was opaque and this spot was nebulous. Several days later a patient with absolute glaucoma in one eye desired to have the eye enucleated for the relief of pain. The cornea was opalescent and insensible, due to the extreme hypertension, but the enucleated globe was carefully placed in a hemolyzed blood-serum taken from a person in whom the Wassermann reaction was negative, after having been washed successfully in ten tubes containing Locke's solution at room temperature. Kept in the blood-serum in a sealed container-tube, the globe was placed in an

ice-box at a temperature which was maintained at 5 C. At the end of twenty-four hours the cornea had become quite clear and was kept in this state for a week. After eight days, the pterygium being first carefully dissected away, a piece of the cornea 4 mm. high and 6 mm. long was carefully removed from the center of the opaque cornea, down to Descemet's membrane, but leaving this intact. To this prepared surface a piece of the same size and thickness from the preserved cornea was applied without suturing. When the binocular bandage was removed at the end of the third day the graft was found to be in perfect apposition and entirely transparent. Fluorescein did not stain at any point. Eight days afterward the red fundus reflex could easily be seen through the pupil. While the pterygium returned on the cornea it did not grow over the graft although it completely encircled the edges of the keratoplasty. Nearly a year after the operation was performed the graft is still perfectly transparent and the visual acuity is 1/7.

The author believes that the result was as good as if fresh material had been used and that for the first time a successful transplantation has been done by the aid of corneal tissue preserved for several days in a state of vitality. The success of his operation shows also that corneal grafts from eyes affected with absolute glaucoma may be used for this operation.

SUNLIGHT TREATMENT OF PRIMARY TUBERCULOSIS OF THE CONJUNCTIVA.

Rollier and G. Borel (*Revue Médicale de la Suisse Romande,* April, 1912) report a case of primary tuberculosis of the conjunctiva which was cured after three months' treatment by systematic exposures to direct sunlight. The patient was a medical student who had been infected by pus squirting into the eye as a tuberculous cavity was incised at a necropsy. The treatment was carried out by his everting the upper lid first and then the lower one and thus exposing them to the direct sunlight for a few minutes and afterward continuing the exposure through the closed lids. The exposures were lengthened until six of ten minutes each were given daily and this was supplemented by a local sun bath for a secondary cervical lymphadenitis. No disturbance of the circulation nor photophobia were produced by the treatment and the conjunctiva was left smooth and normal, which is not the case under other methods of treatment.

CORRESPONDENCE.

To the Editor: New York, December 30, 1912.

The visit by a party of German physicians to the recent International Congress on Hygiene and Demography has proven that a well managed Travel Study party of physicians can make a trip through a foreign country in a far more pleasant and profitable manner, and at less expense, than can be done by travelling alone. Clinics can be arranged in advance, lectures prepared and visits made to the best hospitals and health resorts, with the assurance of a hearty welcome from the leading medical men of the localities visited. For those unable to speak the languages of the countries on the Continent, this disadvantage is reduced to a minimum and the benefits of the trip correspondingly increased by travelling with such a party.

The incoming International Medical Congress, London, Aug. 6-12, 1913, gives a splendid opportunity for organizing an American Tour of this sort and plans are now ready for a Physicians' Travel Study Tour, leaving New York July 3rd for the most important capitals and health resorts on the European Continent: Paris, Munich, Carlsbad-Marienbad, Dresden, Berlin, Nauheim, Wiesbaden, Cologne, Brussels, the Hague, Amsterdam, etc., ending with the week of the Congress in London.

The plan of this tour has been seen and endorsed by Drs. A. Jacobi, T. C. Janeway, Ch. G. Kerley, O. G. T. Kiliani, L. R. Williams, Wisner R. Townsend and others. Physicians interested in such a trip should write for further and more detailed information to

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XVIIth INTERNATIONAL CONGRESS OF MEDICINE,
London, August 6th to 12th, 1913.

We are asked by the Secretaries of the Section of Ophthalmology to recall to our readers the following Rules of Congress:

"The titles of all independent papers should be announced to the Central Office of the Congress by the 30th of April, 1913. Any papers offered after the 30th of April, 1913, will only be placed upon the agenda after the discussion of those which have been announced before this date and have been chosen by the Council of the Section. No paper will be accepted unless the title has been received by the Secretaries of the Section before the 1st of July, 1913. The text of every communication must be typewritten. Independent Papers may be written in English, French, German or Italian."